

**Abstract**

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A reluctance electric machine comprising: (a) a stator part (4) with stator teeth (12) of magnetically conductive material that are provided with coil windings (24); (b) and a rotor part (6) arranged coaxially with respect to the stator part (12) and located opposite the stator part (12) so as to leave free an air gap (8) therebetween; (c) the rotor part (6) having a number of discrete poles (20) of magnetically conductive material that project in the direction towards the stator part (12), characterized in (d) that cooling with channelled coolant flow is provided at least for partial sections of the coil windings (24) of the stator part (12).

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